

Serial No.: 09/980,154
Amendment dated 08 June 2004
Reply to Office Action mailed 08 March 2004

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Amendments to the Specification

Please replace the Abstract of the Disclosure with the following amended paragraph:

ABSTRACT OF THE DISCLOSURE

~~A prefabricated biological purification system which is a complete facility for the purification of domestic wastewaters and forms part of the technological field of civil engineering, more particularly, the field of black water treatment systems. The purification system is very versatile and can be used in different types of constructions, such as individual homes, condominiums, buildings, towns, and the like, including a unitary facility or multiple facilities depending on requirements. The prefabricated biological purification system has two basic units including two containers whose size varies depending on the type and equipped with all modular elements, bottom, walls and lids, in addition to all complementary internal elements. The shape of all components makes them easy to handle, transport and assemble and no special machinery or skilled labor is required. The system operates as follows: in the first unit, which is a prefabricated biological purifier that includes internal and external variations for optimized operation, the first and most important purification phase is effected, wherein the black waters are treated in three successive phases involving aerobic and anaerobic fermentation and decanting. It is possible to~~

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~~internally recirculate the sludges and the effluent of the purifier enters the second unit where it is evenly distributed by a liquid distributor. Purification is completed in the unit by oxidation of contaminating matters as a result of a bacterial film that covers the filling material. A successive aerobic and partly anaerobic fermentation phase is carried out in the unit. The effluent of the system can be emptied into a receptacle involving no further treatment. In view of the fact that the prefabricated biological purification system does not produce any sludges, no regular maintenance or cleaning is required. There are no operating costs due to the fact that no machinery is needed for internal operation. It has no environmental impact in view of the fact that the entire facility is built underground~~ A prefabricated biological purification system for treatment of residential wastewater having a primary purification unit and a secondary purification unit containing a filling material having a grain size distribution of about 2 cm to about 4 cm in diameter. The primary purification unit having modular elements forming a container, and internal elements including an inflow tube, an internal separation panel with a fluid passage duct defining a first internal sector and a second internal sector, a trapezoidal diaphragm, and a device for controlling liquid outflow. A second diaphragm in a form of an octagonal modular element is positioned within the container and a horizontal fluid passage duct is formed as a horizontal opening between a bottom portion of the internal separation panel and the

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second diaphragm. A flow control element forms an intake space between a bottom end portion of an outlet pipe and the trapezoidal diaphragm.

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